REMARKS

The specification at page 7 has been amended to correct an inadvertent error. Particularly, Rf as defined in the specification is a linear or branched fluoroalkyl group having 1 to 21 carbon atoms. The error occurred in translation of the Japanese language specification into English. Notably, the specification at page 7, lines 20-21 instructs that the Rf group is preferably a perfluoroalkyl group, indicating a broader, general definition of Rf at line 18. See also page 22, lines 15-16, which describes (I) as being a repeating unit derived from a monomer having a fluoroalkyl group.

Thus, it is respectfully submitted that the amendment finds adequate support in the originally filed specification.

Claim 1 has been amended to recite that the fluorine-containing polymer consists essentially of (I) and one or both of (II) and (III), where (I) is a repeating unit derived from a monomer having a perfluoroalkyl group having 1 to 6 carbon atoms. Support is found, for example, at page 7, lines 22-23 of the specification. New claim 15 finds support, for example, at page 34, line 24 to page 35, line 2 of the specification. Claim 16 finds support, for example, at page 7, lines 22-23 of the specification.

Entry of the amendments and review and reconsideration on the merits are requested.

Claims 1, 4-7, 13-14 stand rejected; and claim 12 is withdrawn from consideration as being directed to a non-elected invention (i.e., addition of cationic polymer prior to polymerization).

Claims 1, 4-7 and 13 and 14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,346,949 to Fukazawa in view of the admitted state of the prior art or U.S. Patent No. 6,472,019 to Yamaguchi et al.

The grounds for rejection remain the same as set forth in the previous Office Action. Particularly, the Examiner considered Fukazawa as teaching a method and treatment liquid substantially as claimed, with exception of application using an exhaust process (i.e., adjusting the pH of the treatment liquid to at most 7, applying the treatment liquid to a textile and treating the textile with steam). The Examiner cited page 1 of the present specification as teaching that the "exhaust" method of application is known in the art. Alternatively, the Examiner cited Yamaguchi et al. as teaching a process of applying a fluorinated composition by an exhaust process to impart water and oil repellency.

Applicants traverse, and respectfully request the Examiner to reconsider in view of the amendment to the claims and the following remarks.

As noted above, the Examiner relies on Fukazawa as teaching a method and treatment liquid substantially as claimed. However, with the above amendment limiting the fluoroalkyl group to a perfluoroalkyl group having 1 to 6 carbon atoms, the treatment liquid of the claimed method patentably distinguishes over the prior art. As claimed in new claim 16, the carbon number range of the perfluoroalkyl group is further limited to from 1 to 4 carbon atoms.

Turning to the cited prior art, Fukazawa describes a "perfluoroalkyl acrylate monomer with alkyl group having 6 to 12 carbon atoms" at column 2, lines 30-32 and "CH_2=$CHCO_2C_2H_4C_8F_{13}$" at column 3, line 40. However, Fukazawa in practice uses compounds

having 8 carbon perfluoroalkyl groups in the working examples, namely, β-(perfluorooctyl) ethylacrylate at column 7, line 5. That is, Fukazawa did not ever practically consider the use of a perfluoroalkyl group having from 1 to 6 carbon atoms as claimed. Thus, although there is overlap for a perfluoroalkyl group having 6 carbon atoms, it is respectfully submitted that the invention considered as a whole is unobvious over the cited prior art because Fukazawa employs perfluoroalkyl groups having a higher number of carbon atoms in its working examples.

Surely, new claim 16 which recites that the perfluoroalkyl group has 1 to 4 carbon atoms clearly distinguishes over the treatment liquid of Fukazawa.

Applicants further comment on patentability over Fukazawa as follows.

In the Amendment filed December 12, 2005, claim 1 was amended to recite that the fluorine-containing polymer consists essentially of (I) and one or both of (I) and (III), to thereby exclude the treatment liquid of Fukazawa which incorporates an α, β- ethylenically unsaturated monomer containing carboxyl group [component (b)] as an essential component. The language "consists essentially of" excludes those ingredients which "materially affect the basic and novel characteristics of the claimed composition". The Rule 132 Declaration of Kouji Kubota dated December 1, 2005 shows that the absence of the carboxyl group-containing ethylenically unsaturated monomer provides excellent properties (Experiment 1), whereas the introduction of carboxyl group (that is, methacrylic acid) into the fluorine-containing polymer constituting the water- and oil-repellant agent (Experiments 2 and 3) deteriorates water repellency and oil repellency. The composition of the fluorine-containing polymer of Preparative Experiments 1 to 3 is given in Table I at the bottom of page 5 of the Declaration. Notably, Compositions 1 to 3 (as

used to prepare Experiments 1 to 3, respectively) were substantially the same, except that Composition 1 did not contain methacrylic acid (i.e., did not contain a carboxyl group-containing ethylenically unsaturated monomer), whereas Compositions 2 and 3 contained methacrylic acid in amounts of 10 and 15 mol%, respectively. As shown in Table II at the bottom of page 6 of the Declaration, the treated carpet of Experiment 1 (where the fluorine-containing polymer did not contain a methacrylic acid monomer) provided remarkably enhanced water repellency and oil repellency as compared with the treated carpet of Experiments 2 and 3 corresponding to Fukazawa where the fluorine-containing polymer includes a carboxyl group-containing ethylenically unsaturated monomer as an essential component.

In the Office Action of January 18, 2006, the Examiner did not consider the Rule 132 Declaration to be convincing for the reasons that (i) Fukazawa discloses a fluorine-containing polymer containing as little as 0.1 mol % of the ethylenically unsaturated monomer containing carboxyl group, whereas the methacrylic acid component in the Comparative Samples of the Rule 132 Declaration was at a much higher level of 10 mol % and 15 mol %, respectively, and (ii) methacrylic acid is not sufficiently representative of the "α,β-ethylenically unsaturated monomer containing carboxyl group" disclosed by Fukazawa.

Although Fukazawa is said to disclose a fluorine-containing polymer containing as little as 0.1 mole % of the ethylenically unsaturated monomer containing carboxyl group, Fukazawa does not use such low amounts in practice. The test data presented in the Rule 132 Declaration clearly shows the adverse affect of the subject component. If, for example, Fukazawa mentioned that the fluorine-containing polymer could contain as little as 0.01 mole % of the ethylenically

unsaturated monomer containing carboxyl group, it would be unreasonable for the Examiner to ask Applicants to compare against such a low level. For the same reason, there is no need to test at 0.1 mole % in order to support the exclusionary effect of the transitional language "consisting essentially of" where the prior art in practice incorporates the ethylenically unsaturated monomer containing carboxyl group in higher amounts. With regard to (ii), it is respectfully believed that methacrylic acid is fully representative of the α,β-ethylenically unsaturated monomer containing carboxyl group" disclosed by Fukazawa. Methacrylic acid is representative. See, for example, column 2, lines 32-34 and claims 1 and 7 of Fukazawa.

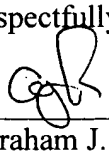
Independent of the test data presented in the Rule 132 Declaration, it is respectfully submitted that the amended claims, requiring a repeating unit (I) derived from a monomer having a perfluoroalkyl group having 1 to 6 carbon atoms (claim 1) or 1 to 4 carbon atoms (new claim 16) are patentable over the cited prior art, and withdrawal of the foregoing rejection under 35 U.S.C. § 103(a) is respectfully requested.

Withdrawal of all rejections and allowance of claims 1, 4-7 and 13-16 is earnestly solicited.

In the event that the Examiner believes that it may be helpful to advance the prosecution of this application, the Examiner is invited to contact the undersigned at the local Washington, D.C. telephone number indicated below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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